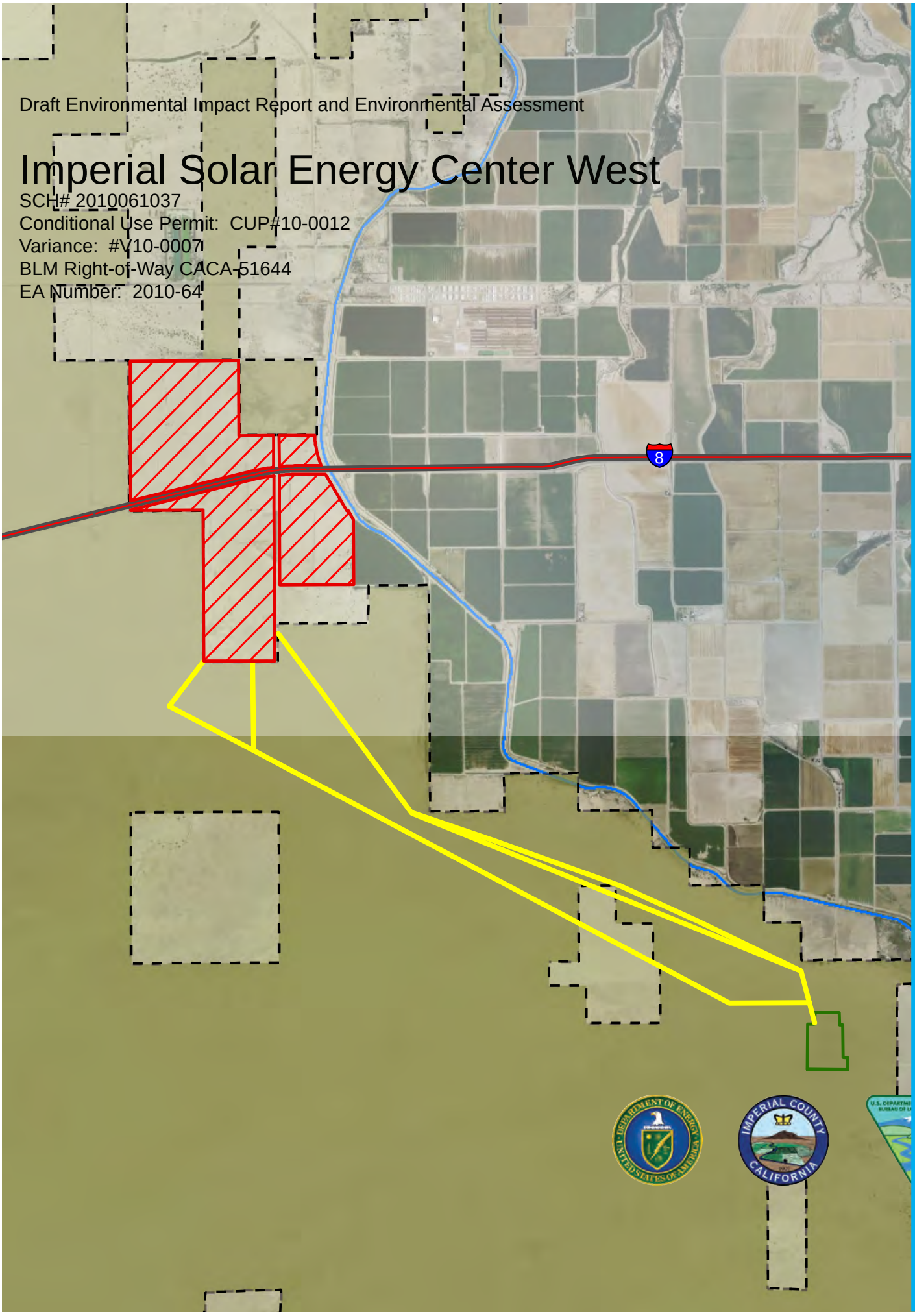
Draft Environmental Impact Report and Environmental Assessment

Imperial Solar Energy Center West

SCH# 2010061037
Conditional Use Permit: CUP#10-0012
Variance: #V10-0007
BLM Right-of-Way CACA-51644
EA Number: 2010-64



BLM

Draft EIR/EA

for the

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EXECUTIVE SUMMARY

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Purpose of the EIR/EA

The EIR/EA provides an analysis of the potential environmental effects associated with the approval of the project. The EIR/EA has been prepared jointly by the County of Imperial (local lead agency) and the U.S. Bureau of Land Management (federal lead agency) in accordance with the California Environmental Quality Act of 1970 (CEQA) statutes (Cal. Pub. Res. Code, § 21000 et seq., as amended) and implementing guidelines (Cal. Code Regs., Title 14, § 15000 et seq. (1998)); the National Environmental Policy Act of 1969 (NEPA) (42 U.S.C. § 4332 (1994)) in accordance with the Council on Environmental Quality (CEQ) regulations implementing NEPA (40 C.F.R. §§1500-1508) The EIR/EA provides a credible worst case scenario of the impacts resulting from implementation of the project.

Project Description

The Proposed Action consists of two primary components: 1) the construction and operation of the 250 Megawatt Imperial Solar Energy Center West solar energy facility; and, 2) the construction and operation of the electrical transmission lines that would connect from the solar facility to the existing Imperial Valley substation. The electricity generation process associated with the Proposed Action would utilize solar technology to convert sunlight directly into electricity. As part of the project, the solar facility would interconnect to the utility grid at the 230 kV side of the Imperial Valley Substation via an approximately five-mile long transmission line. The proposed right-of-way (ROW) for the electrical transmission line corridor would be 120-feet wide.

Agency Roles and Responsibilities

County of Imperial

The solar facility site is designated by the County of Imperial General Plan as "Agriculture" and is zoned A-2 (General Agriculture), A-2-R (General Agricultural Rural Zone), and A-3 (Heavy Agriculture). The proposed solar facility site comprises approximately 1,130 acres of abandoned agricultural land. The Proposed Action would require approval of a Conditional Use Permit by the County of Imperial that would allow for the construction and operation of the proposed solar facility on a project site consisting of nine legal parcels zoned A-2, A-2-R, and A-3. Pursuant to Title 9, Division 5, Chapter 9, "Solar Energy Plants" is a use that is permitted in the A-3 zone subject to approval of a Conditional Use Permit from the County of Imperial. ("Transmission lines, including supporting towers, poles, microwave towers, utility substations" are permitted uses within the A-3 Zone.) Pursuant to Title 9, Division 5, Chapter 8, "Solar energy electrical generator," "Electrical power generating plant," "Major facilities relating to the generation and transmission of electrical energy," and "Resource extraction and energy development," are uses that are permitted in the A-2 and A-2-R zone subject to approval of a Conditional Use Permit from the County of Imperial. In addition, the Proposed Action would require approval of a variance by the County of Imperial that would allow the proposed transmission towers to exceed the 120-foot height limit on the private land portion of

the project. This would affect only the portion of the Proposed Action proposed for the solar energy facility, which is located on private lands in the unincorporated portion of the County of Imperial. The proposed transmission towers would be a maximum of 140 feet in height. No land use changes would be required in order to implement the Proposed Action.

Bureau of Land Management

The solar facility is located approximately five miles northwest of the Imperial Valley Substation. The solar facility would interconnect to the utility grid at the 230 kV side of the Imperial Valley Substation. The Imperial Valley Substation is located within federal lands managed by the BLM; therefore, the project requires Right-of-Way (ROW) approval from the BLM. The project plans a 120 foot wide ROW from the project site, along BLM land to the Imperial Valley Substation in order to accommodate the transmission corridor. The right-of-way corridor, within BLM lands comprises approximately 72.72 acres.

To obtain the ROW approval, CSOLAR submitted a "Standard Form-299 Application for Transportation and Utility Systems and Facilities on Federal Lands" to the BLM. The proposed ROW would be within Utility Corridor "N" of the BLM's California Desert Conservation Area Plan (the Desert Plan). BLM is the lead agency on this Environment Assessment (EA) pursuant to a Memorandum of Understanding (MOU) between DOE and BLM signed in January 2010, and would use this EA to comply with NEPA and assist the decision making regarding whether or not approve the proposed ROW.

Department of Energy

Title XVII of the Energy Policy Act of 2005 (EPAct), P.L. 109-58 as amended by section 406 of the American Recovery and Reinvestment Act of 2009, P.L. 111-5 (the "Recovery Act"), established a Federal loan guarantee program for eligible energy projects. Title XVII authorizes the Secretary of Energy to make loan guarantees for various types of projects, including those that "avoid, reduce, or sequester air pollutants or anthropogenic emissions of greenhouse gases; and employ new or significantly improved technologies as compared to commercial technologies in service in the United States at the time the guarantee is issued." Section 406 of the Recovery Act added section 1705, which is designed to address the current economic conditions of the nation, in part, through eligible renewable and transmission projects to commence construction no later than September 30, 2011. The primary purposes of the Recovery Act are job preservation and creation, infrastructure investment, energy efficiency and science, assistance to the unemployed, and state and local fiscal stabilization. The purpose and need for the Department of Energy (DOE) action would be to comply with its mandate by selecting eligible projects that meet the goals of EPAct and the Recovery Act.

Pursuant to provisions of section 1705, on October 7, 2009, DOE competitively solicited applications for, "Commercial Technology Renewable Energy Generation Projects Under the Financial Institution Partnership Program." In response to that solicitation the project proponent, CSOLAR Development LLC submitted an application to DOE on June 11, 2010, for a Federal loan guarantee for the Imperial Solar Energy Center (ISEC) South and West. DOE is carrying out a detailed financial, technical, and legal evaluation of the project submitted by the loan applicant, and is in the course of negotiating the terms and conditions of a possible Federal loan guarantee pursuant to its procedures set out at 10 CFR Part 609. DOE is a

cooperating agency on this Environment Assessment (EA) pursuant to a Memorandum of Understanding (MOU) between DOE and BLM signed in January 2010, and would use this EA to comply with NEPA and assist the decision making regarding whether or not to issue a loan guarantee.

For a comprehensive list of all agencies with roles and responsibilities, see Section 1.1 below.

Project Location

The site of the proposed solar energy facility is located on 1,130 acres of privately-owned land, previously utilized for agricultural production. The site is located in the unincorporated Seeley area of the County of Imperial, approximately eight miles west of the City of El Centro and south of the community of Seeley. The proposed transmission lines would be located within the Yuha Desert, and within BLM's Utility Corridor "N" of the California Desert Conservation Area plan. Imperial County is located in Southern California, bordering Mexico, west of Arizona, and east of San Diego County. The proposed transmission lines would be located within BLM's Utility Corridor "N".

Purpose and Need

The purpose of the Proposed Action is to utilize Imperial County's abundance of available solar energy (sunlight) to generate renewable energy. The following objectives have been identified for the proposed project. These objectives also provide a basis for identification of alternatives evaluated in the EIR/EA.

Imperial County

The County of Imperial is the lead agency for the Proposed Action pursuant to the California Environmental Quality Act.

- Construct and operate a solar energy facility capable of producing 250 megawatts of electricity which would help meet the increasing demand for clean, renewable electrical power.
- Construct and operate a solar power facility in compliance with CEQA and the County's CEQA Guidelines, as well as any other applicable local, state, and federal standards.
- Operate a facility at a location that ranks amongst the highest in solar resource potential in the nation.
- Align transmission lines with existing lines contained within an existing utility corridor to minimize impacts to BLM land.
- Provides economic investment for Imperial County.
- Reinforce Imperial County's position as a leader in the renewable energy world.
- Operate a renewable energy facility that does not produce significant noise, emit significant greenhouse gases, and minimizes water use.
- Meet the increasing demand for clean, renewable electrical power.

- Help reduce reliance on foreign sources of fuel, promotes national security, diversify energy portfolios, contribute to the reduction of greenhouse gas emissions and generate "green" jobs.
- The Project will contribute much needed on-peak power to the electrical grid in California.
- Help California meet its statutory and regulatory goal of increasing renewable power generation.
- Assist California in meeting its Renewable Portfolio Standard goals of 33 percent of electrical power retail sales by 2020 under pending legislation.
- Support U.S. Secretary of the Interior Salazar's Orders 3283 and 3285 making the production, development and delivery of renewable energy top priorities for the United States.
- Support the greenhouse gas reduction goals of Assembly Bill 32 (California Global Warming Solutions Act of 2006).
- Sustain and stimulate the economy of Southern California by helping to ensure an adequate supply of renewable electrical energy while simultaneously creating additional construction and operations employment and increased expenditures in many local businesses.
- Locate the solar energy generating facility on a site with the proximity and the ability to interconnect to the California Independent System Operator (CAISO) controlled transmission network.
- Locate the solar energy generating facility on a site with the ability to utilize a previously designated utility transmission corridor.

Bureau of Land Management

The Bureau of Land management is the lead agency under the National Environmental Policy Act for the Proposed Action. The purpose of the Proposed Action is to provide the proponents of the Imperial Solar Energy Center West with legal access across public land managed by the BLM in order to allow the construction and operation of proposed electrical transmission lines from the Imperial Solar Energy Center West solar energy facility to the Imperial Valley Substation. The need for the action is established by the BLM's responsibility under the Federal Land Policy and Management Act of 1976, as Amended (FLPMA) to respond to a request for a Right-of-Way Grant under Title V of the FLPMA for legal access through BLM lands.

Department of Energy

The purpose and need for the DOE action would be to comply with its mandate by selecting eligible projects that meet the goals of EPAct and the Recovery Act. The goals of the EPAct's loan guarantee program are to encourage commercial use in the U.S. of new or significantly improved energy-related technologies and to achieve substantial environmental benefits.

Environmental Impacts

The County of Imperial has determined that an Environmental Impact Report (EIR) is required pursuant to the California Environmental Quality Act (CEQA) and the Bureau of Land Management (BLM) has

determined to follow the process of reviewing the project as required under the National Environmental Policy Act (NEPA) and will assess the project via an Environmental Assessment (EA). The environmental issue areas identified by the agencies as a result of input received on the Notice of Preparation (NOP) and scoping meeting for the project include the following: visual resources; land use; transportation/circulation; air quality; greenhouse gas emissions; geology/soils and mineral resources; cultural resources; noise; agricultural resources; health, safety and hazardous materials/fire and fuels management; hydrology and water quality; biological resources; public services and utilities; paleontological resources; socioeconomics and environmental justice; recreation; special designations; and, cumulative impacts.

This EIR/EA is a joint federal/state document prepared to comply with the requirements of both NEPA and CEQA. CEQA requires an EIR to identify significant environmental effects of the project. The Environmental Consequences subsections of this EIR/EA each contain a subsection identified as *CEQA Significance Criteria*. These criteria are used in this EIR/EA only to determine the significance under CEQA of each identified adverse effect and are presented in Table ES-1. Table ES-1 presents a summary of the environmental impacts of the Proposed Action, mitigation measures that are proposed to reduce potential significant impacts of the Proposed Action, and the level of significance of each impact after implementation of proposed mitigation measures.

In accordance with CEQA Guidelines § 15004(b)(3) and 40 C.F.R. § 1508.20, the applicant has incorporated design features, measures, and procedures into the description of its proposed project to avoid or reduce impacts from project construction and operation. These measures are referred to as Applicant Proposed Measures (APMs) in this document and are considered in the analysis of potential impacts and in the determination of significance.

Analysis Assumptions Generally Used to Evaluate the Impacts of the Proposed Action

Baseline Environmental Conditions Assumed in the Draft EIR/EA

Section 15125(a) of the CEQA Guidelines requires that an EIR include a description of the physical environmental conditions in the vicinity of the project as they exist at the time the Notice of Preparation is published. The CEQA Guidelines also specify that this description of the physical environmental conditions is to serve as the baseline physical conditions by which a lead agency determines whether impacts of a project are considered significant.

The environmental setting conditions of the project site and the surrounding area are described in detail in the technical sections of the Draft EIR/EA in Chapter 3. In general, these setting discussions describe the setting conditions of the project site and the surrounding area as they existed when the NOP for the project was released on June 11, 2010. In addition, the Draft EIR/EA also includes updated setting information since release of the NOP, such as the status of proposed and approved large-scale projects in the region.

Applicant Mitigation Measures

In accordance with CEQA Guidelines Section 15004(b)(3) and 40 C.F.R. Section 1508.20, the project proponent has incorporated design features, measures, and procedures into the description of its project to avoid or reduce impacts from project construction and operation. These measures are referred to as Applicant Proposed Measures (APMs) in this document and are considered in the analysis of potential impacts and in the determination of significance.

CEQA Guidelines Section 15004(b)(3) states, "[w]ith private projects, the Lead Agency shall encourage the project proponent to incorporate environmental considerations into the project conceptualization, design, and planning at the earliest feasible time." When mitigation is built into a project's design, the lead agency may presume that the project will be implemented consistent with the project description. *Environmental Council of Sacramento v City of Sacramento* (2006) 142 CA4th 1018, 1035, 48 CR3d 544. The project proponent thus incorporated APMs into the Proposed Action's design in order to assure that potentially significant impacts do not rise to the level of significance.

General Plan Consistency Analysis

As required by CEQA Guidelines 15125(d), each technical section of the EIR (Chapter 4) has been evaluated for consistency with policies contained in the applicable Imperial County General Plan. "An action, program, or project is consistent with the general plan if, considering all its aspects, it will further the objectives and policies of the general plan and not obstruct their attainment." *Corona-Norco Unified School Dist. v. City of Corona* (1993) 17 Cal.App.4th 985, 994 [emphasis added].

Project Buildout Assumptions

For most of the environmental impact sections of the EIR/EA, it is conservatively assumed that buildout of the site would be permanent. However, several of these impacts will be temporary. The land proposed for the solar energy facility is subject to a long-term lease agreement. Under the lease agreement, the applicant is required to restore the land to its current use at the end of the project term.

Potentially Significant, Mitigable Impacts

Implementation of the Proposed Action will result in potentially significant impacts as a result of the construction activities and operation of the project. Potentially significant impacts, pursuant to CEQA criteria, have been identified to the following environmental issue areas:

- Transportation/Circulation
- Air Quality
- Geology/Soils and Mineral Resources
- Cultural Resources
- Agricultural Resources
- Health, Safety and Hazardous Materials
- Hydrology and Water Quality
- Biological Resources
- Paleontological Resources

Incorporation of the APMs into the design of the Proposed Action and the Implementation of proposed Mitigation Measures identified in this EIR/EA would ensure that the impact to these resource areas do not rise to a level of significance.

Significant, Unmitigable Impacts

No significant, unmitigable impacts have been identified associated with the construction and operation of the Proposed Action.

Alternatives to the Proposed Action

The following alternatives are included and analyzed in Section 4.0 Environmental Consequences of this EIR/EA:

Proposed Action

The Proposed Action for the transmission line corridor is described in detail in Section 2.1.4. The alignment of this alternative is shown on Figure 2-20. The Proposed Action parallels the proposed IID Dixieland corridor to the proposed IID substation north of the Imperial Valley Substation proposed route. It is considered the Proposed Action as it would minimize impacts to BLM lands and cultural resources while also meeting the project objectives. This alternative would enable CSOLAR and IID Dixieland to share an access road and minimize disturbance to the Yuha Desert. Also, it would be the least environmentally damaging practicable alternative in regards to impacts on U.S. Army Corps of Engineers jurisdictional waters (non-wetland waters of the U.S.).

Alternative 1-Alternative Transmission Line Corridor

Alternative 1-Alternative Transmission Line Corridor for the proposed transmission line is shown on Figure 2-21. This alternative would be similar to the Proposed Action transmission corridor for a majority of the alignment; however, it is routed around two private parcels. (The Proposed Action would run through the private parcels should an easement be granted.) The Alternative 1-Alternative Transmission Line Corridor would avoid the private lands.

Alternative 2-Alternative Transmission Line Corridor

Alternative 2-Alternative Transmission Line Corridor for the proposed transmission line is shown on Figure 2-22. This alternative would be located further west than the transmission line corridor under the Proposed Action. This route parallels the Sunrise Powerlink, which is currently under construction, Southwest Powerlink, and proposed Imperial Valley Solar Gentie. Under Alternative 2-Alternative Transmission Line Corridor, the Applicant would create spurs off the existing access road to access its proposed towers.

Alternative 3-Reduced Solar Energy Facility Site

Alternative 3-Reduced Solar Energy Facility Site is a reduced solar energy facility site. The purpose of this alternative is to avoid impacts to sensitive resources located within the boundary of the solar energy facility site. Under this alternative, the solar energy facility site size would be reduced by approximately 7.31 acres. This would equate to a nominal (approximately 3 megawatt) reduction of power generating capability.

The transmission line corridor would be the same as is assumed for the Proposed Action. Figure 2-23 depicts Alternative 2-Reduced Solar Energy Facility Site Alternative.

Alternative 4-No Action/No Project Alternative

Alternative 4-No Action/No Project Alternative assumes that the solar facility and associated transmission lines would not be constructed. DOE would not issue a loan guarantee to CSOLAR Development LLC.

Areas Of Controversy And Issues To Be Resolved

The CEQA Guidelines Section 15123(b)(2) requires that areas of controversy known to the lead agency, including issues raised by agencies and the public, and be identified in the EIR/EA's Summary. To determine the number, scope and environmental topics to be addressed in this EIR/EA, the Imperial County Planning and Development Services Department prepared a Notice of Preparation (NOP) and circulated the NOP on June 11, 2010 to interested public agencies, organizations, community groups and individuals in order to receive input on the Proposed Action. The NOP was circulated for the mandatory 30-day minimum public review period, starting on June 11, 2010 and ending on July 13, 2010. The NOP and the distribution list for the NOP are provided in Appendix A of this EIR/EA.

In addition to the State Clearinghouse transmittal letter, seven written comment letters were received in response to the NOP. Agencies and entities that submitted written comment letters included California Department of Transportation, the United States Marine Corps, Imperial County Air Pollution Control District, California Department of Conservation, Department of Toxic Substances Control, Imperial Irrigation District (IID), and Colorado River Board of California. Through the NOP process, the following areas of controversy or issues include:

- Caltrans requirements for Utility Encroachment, such as line supports for overhead lines crossing freeways
- Concern regarding dust emissions and control during construction and operation of the project
- Concerns raised regarding potential impacts associated with the conversion of agricultural lands
- Concern regarding possible use of herbicides for weed control at the solar generating facility
- Concern regarding impacts to human health and/or the environment due to potential hazardous materials onsite (e.g., chemicals, asbestos, pesticides, and organic waste)
- Fiscal impacts to the County associated with the solar generating facility
- Concerns raised regarding the Proposed Action's location within a military low-level training route and the potential impact including noise, vibrations, and interference from the overflight aircraft
- Revisions to IID distribution circuits may be required to serve the Operations and Maintenance building proposed at the solar facility site
- Concern that the IID facilities may potentially impact the Westside Main Canal
- A new bridge may be required to cross the Westside Main Canal in order to access the site

- Encroachment permit requirements for any construction or operation on IID property or within existing or proposed right of way easements
- Project water requirements of IID
- New, relocated, or reconstructed IID facilities required for the project need to be evaluated

Mitigation, Monitoring And Reporting Program

CEQA Section 21081.6(a) requires lead agencies to adopt a Mitigation, Monitoring and Reporting Program (MMRP) to describe measures which have been adopted or made a condition of project approval in order to mitigate or avoid significant effects on the environment. The specific "reporting or monitoring" program required by CEQA is not required to be included in the EIR; however, it will be presented to the County Planning Commission and/or Board of Supervisors for adoption if the Proposed Action is approved. Throughout the EIR, mitigation measures have been clearly identified and presented in language that will facilitate establishment of an MMRP. The MMRP would ensure compliance with the mitigation measures adopted by the County Board of Supervisors.

TABLE ES-1
Summary of Potential Environmental Effects, Mitigation Measures, and Significance

Environmental Effects	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
4.1 Visual Resources			
PA No significant short-term or long-term visual resources impact has been identified.	NE	No mitigation recommended.	NE
1 Same as PA.	NE	Same as PA.	NE
2 Same as PA.	NE	Same as PA.	NE
3 Same as PA.	NE	Same as PA.	NE
4 No new development is proposed under the No Action/No Project Alternative.	NE	No mitigation recommended.	NE
4.2 Land Use			
PA No significant physical land use impact has been identified.	NE	No mitigation recommended.	NE
1 Same as PA.	NE	Same as PA.	NE
2 Same as PA.	NE	Same as PA.	NE
3 Same as PA.	NE	Same as PA.	NE
4 No new development is proposed under the No Action/No Project Alternative.	NE	No mitigation recommended.	NE
4.3 Transportation/Circulation			
PA No direct impacts to intersections, roadway segments, and freeway segments were identified.	NE	No mitigation recommended.	NE
1 Same as PA.	NE	Same as PA.	NE
2 Same as PA.	NE	Same as PA.	NE
3 Same as PA.	NE	Same as PA.	NE
4 No new development is proposed under the No Action/No Project Alternative.	NE	No mitigation recommended.	NE

Proposed Action = PA	Alternative 1 – Alternative Transmission Line Corridor (IVW-2A) = 1	Alternative 2 – Alternative Transmission Line Corridor (IVW-1) = 2	Alternative 3 – Reduced Solar Energy Facility Site = 3	Alternative 4 – No Action/No Project Alternative = 4
Less Than Significant = LTS	Significant = S	Significant and Unavoidable = SU	No Effect = NE	Beneficial Effect = BE

Environmental Effects	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
4.4 Air Quality			
PA Significant NO_x impacts are expected due to construction grading operations. NO_x emissions of 103.5 pounds per day would exceed ICAPCD's threshold of 55 pounds per day. This is considered a significant impact and would require mitigation using cleaner Tier 2+ equipment[1] to reduce NO_x emissions to below a level of significance.	S	**AQ1** Construction equipment shall be equipped with an engine designation of EPA Tier 2 or better Tier (Tier 2+). A list of the construction equipment and the associated EPA Tier shall be submitted to the County Planning and Development Department prior to the issuance of a grading permit to verify implementation of measure. **AQ2** Pursuant to Imperial County's APCD, all construction sites, regardless of size, must comply with the requirements contained within Regulation VIII-Fugitive Dust Control Measures. These mitigation measures listed below shall be implemented prior to and during construction and enforced/monitored by the County Department of Public Works will verify implementation and compliance with these measures. *ICAPCD Standard Mitigation Measures for Fugitive Dust (PM_{10}) Control* • All disturbed areas, including Bulk Material storage which is not being actively utilized, shall be effectively stabilized and visibl3e emissions shall be limited to no greater than 20% opacity for dust emissions by using water, chemical stabilizers, dust suppressants, tarps or other suitable material such as vegetative ground cover.	LTS

[1] For the purposes of mitigation, any construction equipment unable to comply with the applicable standards for a specific pollutant will be reanalyzed using the applicable Tier 2 equipment for engine sizes over 50 HP. These emission rates become mandatory for all equipment built starting 2001 or later (depending on engine size).

Proposed Action = PA	Alternative 1 – Alternative Transmission Line Corridor (IVW-2A) = 1	Alternative 2 – Alternative Transmission Line Corridor (IVW-1) = 2	Alternative 3 – Reduced Solar Energy Facility Site = 3	Alternative 4 – No Action/No Project Alternative = 4
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Environmental Effects	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		• All on site and off site unpaved roads will be effectively stabilized and visible emissions shall be limited to no greater than 20% opacity for dust emissions by paving, chemical stabilizers, dust suppressants and/or watering. • All unpaved traffic areas one (1) acre or more with 75 or more average vehicle trips per day will be effectively stabilized and visible emission shall be limited to no greater than 20% opacity for dust emissions by paving, chemical stabilizers, dust suppressants and/or watering. • The transport of Bulk Materials shall be completely covered unless six inches of freeboard space from the top of the container is maintained with no spillage and loss of Bulk Material. In addition, the cargo compartment of all Haul Trucks is to be cleaned and/or washed at delivery site after removal of Bulk Material. • All Track-Out or Carry-Out will be cleaned at the end of each workday or immediately when mud or dirt extends a cumulative distance of 50 linear feet or more onto a paved road within an Urban area. • Movement of Bulk Material handling or transfer shall be stabilized prior to handling or at points of transfer with application of sufficient water, chemical stabilizers or by sheltering or enclosing the operation and transfer line.	

Proposed Action = PA	Alternative 1 – Alternative Transmission Line Corridor (IVW-2A) = 1	Alternative 2 – Alternative Transmission Line Corridor (IVW-1) = 2	Alternative 3 – Reduced Solar Energy Facility Site = 3	Alternative 4 – No Action/No Project Alternative = 4
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Environmental Effects	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		• The construction of any new Unpaved Road is prohibited within any area with a population of 500 or more unless the road meets the definition of a Temporary Unpaved Road. Any temporary unpaved road shall be effectively stabilized and visible emissions shall be limited to no greater than 20% opacity for dust emission by paving, chemical stabilizers, dust suppressants and/or watering. *ICAPCD Standard Mitigation Measures for Construction Combustion Equipment* • Use of alternative fueled or catalyst equipped diesel construction equipment, including all off-road and portable diesel powered equipment. • Minimize idling time either by shutting equipment off when not in use or reducing the time of idling to 5 minutes as a maximum. • Limit, to the extent feasible, the hours of operation of heavy duty equipment and/or the amount of equipment in use • Replace fossil fueled equipment with electrically driven equivalents (provided they are not run via a portable generator set) • Construction equipment operating onsite should be equipped with two to four degree engine timing retard or precombustion chamber engines.	

Proposed Action = PA	Alternative 1 – Alternative Transmission Line Corridor (IVW-2A) = 1	Alternative 2 – Alternative Transmission Line Corridor (IVW-1) = 2	Alternative 3 – Reduced Solar Energy Facility Site = 3	Alternative 4 – No Action/No Project Alternative = 4
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Environmental Effects	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		• Construction equipment used for the project should utilize EPA Tier 2 or better engine technology. • Keep vehicles well maintained to prevent leaks and minimize emissions, and encourage employees to do the same. *ICAPCD Discretionary Mitigation Measures for Fugitive Dust (PM_{10}) Control* • Water exposed soil with adequate frequency for continued moist soil, including a minimum of three wettings per day during grading activities. • Replace ground cover in disturbed areas as quickly as possible • Automatic sprinkler system installed on all soil piles • Vehicle speed for all construction vehicles shall not exceed 15 mph on any unpaved surface at the construction site. • Implement the trip reduction plan to achieve a 1.5 AVR for construction employees • Implement a shuttle service to and from retail services and food establishments during lunch hours	

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Environmental Effects	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		Enhanced Mitigation Measures for Construction Equipment • Curtail construction during periods of high ambient pollutant concentrations; this may include ceasing of construction activity during the peak hour of vehicular traffic on adjacent roadways • Implement activity management (e.g. rescheduling activities to reduce short-term impacts)	
1 Same as PA.	S	Same as PA.	LTS
2 Same as PA.	S	Same as PA.	LTS
3 Same as PA.	S	Same as PA.	LTS
4 No significant impact would occur.	NE	No mitigation recommended.	NE
4.5 Greenhouse Gases			
PA Although no impact is identified for greenhouse gas emissions, the Proposed Action is required to be consistent with the GHG emissions reduction strategies of AB 32.	NE	**GHG1** <u>*Diesel Equipment (Compression Ignition) Offset Strategies (40% to 60% Reduction):*</u> 1) Use electricity from power poles rather than temporary diesel power generators. 2) Construction equipment operating onsite should be equipped with two to four degree engine timing retard or precombustion chamber engines. 3) Construction equipment used for the project should utilize EPA Tier 2 or better engine technology (Requirement under Mitigation Measure AQ1 as described in Section 4.4 of this EIR/EA.	BE

Proposed Action = PA	Alternative 1 – Alternative Transmission Line Corridor (IVW-2A) = 1	Alternative 2 – Alternative Transmission Line Corridor (IVW-1) = 2	Alternative 3 – Reduced Solar Energy Facility Site = 3	Alternative 4 – No Action/No Project Alternative = 4
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Environmental Effects	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		GHG2 *Vehicular Trip (Spark Ignition) Offset Strategies (30% to 70% Reduction):* 4) Encourage commute alternatives by informing construction employees and customers about transportation options for reaching your location (i.e. post transit schedules/routes). 5) Help construction employees rideshare by posting commuter ride sign-up sheets, employee home zip code map, etc. 6) When possible, arrange for a single construction vendor who makes deliveries for several items. 7) Plan construction delivery routes to eliminate unnecessary trips. 8) Keep construction vehicles well maintained to prevent leaks and minimize emissions, and encourage employees to do the same.	
1 Same as PA.	NE	Same as PA.	BE
2 Same as PA.	NE	Same as PA.	BE
3 Same as PA.	NE	Same as PA.	BE
4 No significant impact would occur.	NE	No mitigation recommended.	NE
4.6 Geology/Soils and Mineral Resources			
PA The Proposed Action site contains expansive soils and corrosive soils.	S	**GS1** Prior to approval of final engineering and grading plans for the Imperial Solar Energy West project site, the County shall verify that all recommendations contained in the *Geotechnical Investigation Report, Imperial Solar Energy Center West,* prepared by Landmark Consultants,	LTS

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Environmental Effects	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		Inc. (May 2010) has been incorporated into all final engineering and grading plans. This report identifies specific measures for mitigating geotechnical conditions on the project site, and addresses site preparation, foundations and settlements, slabs-on-grade, concrete mixes and corrosivity, seismic design, and pavement design. The County's soil engineer and engineering geologist shall review grading plans prior to finalization, to verify plan compliance with the recommendations of the report. All development on the project site shall be in accordance with Title 24, California Code of Regulations.	
1 Same as PA.	S	Same as PA.	LTS
2 Same as PA.	S	Same as PA.	LTS
3 Same as PA.	S	Same as PA.	LTS
4 No significant impact would occur.	NE	No mitigation recommended.	NE
4.7 Cultural Resources			
PA Implementation of the Proposed Action would result in a significant impact to cultural resources during the construction and operational repair periods of the project.	S	**CR-1** The sites which would be impacted during project construction are broken down by alternative in Section 4.7.1 above. For those sites which would be directly impacted due to the construction of access roads, towers, pull sites, or solar fields, a formal testing and evaluation program is required. The evaluation program for such sites shall document the presence or absence of subsurface deposits and the specific research potential for each site. In addition, the evaluation program shall be consistent with the *Secretary of Interior Standards for the Treatment of Historic Properties* and *the Secretary of Interior Standards and Guidelines for Archaeology and*	LTS

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Environmental Effects	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		Historic Preservation. Should these sites be determined eligible for listing on the NRHP, CRHR, and/or local register, best management practices consistent with the *Secretary of Interior Standards for the Treatment of Historic Properties and the Secretary of Interior Standards and Guidelines for Archaeology and Historic Preservation* shall be required including: a) Preservation in Place: (1) Avoidance of the resource through project redesign in a manner that is technically possible, operationally possible, does not cause a new significant environmental impact or increase the severity of a significant environmental impact, and does not cause the loss of more than 1 MW of production. (2) Covering the archaeological sites with a layer of chemically stable soil before constructing facilities on site so long as covering can be done in a manner that is technically possible, does not cause a new significant environmental impact or increase the severity of a significant environmental impact, and does not cause the loss of more than 1 MW of production. b) Minimizing impacts by limiting the degree of impacts or reducing the impact through best management practices identified in a data recovery, excavation and/or construction monitoring plan. The content of this plan must be consistent with *the Secretary of Interior's Standards for the Treatment of Historic*	

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Environmental Effects	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		Properties and Secretary of the Interior's Standards and Guidelines for Archaeology and Historic Preservation and include a description of areas to be monitored during construction, a discovery plan that will address unanticipated cultural resources, and provisions for the education of construction workers. **CR-2** There are additional sites which may be impacted due to their proximity to construction areas (see Section 4.7.1 above). Because these sites are located near areas being impacted by project construction, temporary fencing around their perimeters will be required to ensure that project impacts remain within the proposed impact area and that cultural resources are avoided by project personnel. In addition, grading within the construction area shall be performed in a manner that incorporates sheet flow and water runoff diversion techniques to prevent surface water from damaging off-site cultural sites. **CR-3** Pursuant to CEQA Guidelines § 15064.5(f), in the event that unknown historic or unique archaeological resources are encountered during construction or operational repairs, archaeological monitors will be authorized to temporarily divert construction work within 100 feet of the area of discovery until the significance and the appropriate mitigation measures are determined by a Registered Professional Archaeologist	

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Environmental Effects	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		familiar with the resources of the region. Applicant shall notify the County within 24 hours. Applicant shall provide contingency funding sufficient to allow for implementation of avoidance measures or appropriate mitigation. **CR-4** If human remains are discovered, work will be halted in that area, and the procedures set forth in the Native American Graves Protection and Repatriation Act (NAGPRA), the CEQA Guidelines Sec. 15064.5 (d) and (e), California PRC Sec. 5097.98 and state HSC Sec. 7050.5 shall be followed, as applicable.	
1 Same as PA.	S	Same as PA.	LTS
2 Same as PA.	S	Same as PA.	LTS
3 Same as PA.	S	Same as PA.	LTS
4 No significant impact would occur.	NE	No mitigation recommended.	NE
4.8 Noise			
PA No significant impact would occur.	NE	No mitigation recommended.	NE
1 Same as PA.	NE	Same As PA.	NE
2 Same as PA.	NE	Same As PA.	NE
3 Same as PA.	NE	Same As PA.	NE
4 No significant impact would occur.	NE	No mitigation recommended.	NE
4.9 Agricultural Resources			
PA Implementation of the Proposed Action will result in the conversion of existing farmlands on the project site to other uses.	S	**AR1** Prior to the issuance of a grading permit or building permit (whichever permit comes first) for the Proposed Action, the mitigation of impact to agricultural lands shall be accomplished via one of the following as determined by the Permittee:	LTS

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		The "Imperial Solar Energy Center West" project will result in the permanent loss of 1,048.4 acres of agricultural land (farmland of local importance) and the following mitigation measures shall apply: Option 1: The Permittee shall procure Agricultural Conservation Easements on a 1 to 1 basis for all 1,048.4 acres, of similar quality farmland, outside of the path of development. The Conservation Easement shall meet the State Department of Conservation's regulations and shall be recorded prior to issuance of any grading or building permits. Option 2: The Permittee shall pay an "Agricultural In-Lieu Mitigation Fee" in the amount of 20% of the fair market value per acre for the 1,048.4 acres based on five comparable sales of land used for agricultural purposes as of the effective date of the permit, including program costs on a cost recovery/time and material basis. The Agricultural In-Lieu Mitigation Fee, will be placed in a trust account administered by the Planning and Development Services Department and will be used for such purposes as the acquisition, stewardship, preservation and enhancement of agricultural lands within Imperial County.	
1 Same as PA.	S	Same as PA.	LTS
2 Same as PA.	S	Same as PA.	LTS

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Environmental Effects	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
3 Same as PA.	S	Same as PA.	LTS
4 No new development is proposed under the No Action/No Project Alternative.	NE	No mitigation recommended.	NE
4.10Health, Safety and Hazardous Materials/Fuels Management			
PA The presence of trash and debris onsite and the application of herbicides on the solar facility project site is considered a significant impact.	S	**HM1** Prior to the issuance of a grading permit, all trash and debris within the project site shall be disposed of off-site, in accordance with current, local, state, and federal disposal regulations. Compliance with this measure shall be verified by the Planning and Development Services Department before issuance of a grading permit. **HM2** Prior to the application of herbicides on the solar facility for weed management, a weed control plan shall be developed and approved by the County of Imperial Agricultural Commissioner. The weed control plan shall provide: 1) monitoring, preventative and management strategies for weed control during construction activities at the project; 2) control and management of weeds in areas temporarily disturbed during construction where native seed will aid in site revegetation; and, 3) a long-term strategy for weed control and management during the operation of the project.	LTS
1 Same as PA.	S	Same as PA.	LTS
2 Same as PA.	S	Same as PA.	LTS
3 Same as PA.	S	Same as PA.	LTS
4 No significant impact would occur.	NE	No mitigation recommended.	NE

Proposed Action = PA	Alternative 1 – Alternative Transmission Line Corridor (IVW-2A) = 1	Alternative 2 – Alternative Transmission Line Corridor (IVW-1) = 2	Alternative 3 – Reduced Solar Energy Facility Site = 3	Alternative 4 – No Action/No Project Alternative = 4
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Environmental Effects	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
4.11 Hydrology and Water Quality			
PA The increase in imperviousness at the project site will be a result of the proposed transformer/inverter pads and the operations and maintenance facility. The combined impact of these facilities will increase the site imperviousness from 0% to 0.5%. The increase in runoff volumes is considered a significant impact. Contamination associated with urban non-point source pollution (e.g., grease, oils, sediment, and heavy metals) could enter the on-site retention basins as a result of construction or post-construction-related activities, resulting in potentially significant water quality impacts.	S	**HWQ1** Prior to the recordation of the first final map and/or issuance of the first grading permit, the developer shall submit and receive a NPDES permit from the RWQCB in accordance with a SWPPP approved by the County of Imperial. The SWPPP shall include source control and treatment control BMPs. Possible source control BMPs include, but are not limited to: • trash storage; • integrated pest management; • efficient irrigation and landscape design; and, • property owner educational materials regarding source control management. Treatment control BMPs will comprise of detention basins to remove trash and pollutants such as sediment, nutrients, metals, bacteria, oil and grease, and organics. **BMP Maintenance** Proper maintenance is required to insure optimum performance of the detention basins. Maintenance will be the responsibility of the owner throughout the life of the project. The owner will instruct any future owner of the maintenance responsibility. The operational and maintenance needs of the proposed detention basins and under-panel detention basins include:	LTS

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Environmental Effects	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		• Periodic sediment removal. • Monitoring of the basin to ensure it is completely and properly drained. • Outlet structure cleaning. • Vegetation management. • Removal of weeds, tree pruning, leaves, litter, and debris. • Vegetative stabilization of eroding banks. **Inspection Frequency** The facility will be inspected and inspection visits will be completely documented: • Once during the rainy season and once between each rainy season at a minimum, • After every large storm (after every storm monitored or those storms with more than 0.50 inch of precipitation). **Aesthetic and Functional Maintenance** Functional maintenance is important for performance and safety reasons. Aesthetic maintenance is important for public acceptance of storm water facilities. Aesthetic Maintenance-The following activities will be included in the aesthetic maintenance program:	

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Environmental Effects	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		• Weed Control: Weeds will be removed through mechanical means. Functional Maintenance has two components: • Preventative maintenance. • Corrective maintenance. **Preventative Maintenance** Preventative maintenance will be done on a regular basis. Preventative maintenance activities to be instituted at the basin are: • Trash and Debris: During each inspection and maintenance visit to the site, debris and trash removal will be conducted to reduce the potential for inlet and outlet structures and other components from becoming clogged and inoperable during storm events. • Sediment management: Alluvial deposits at the inlet structures may create zones of ponded water. Upon these occurrences these deposits will be graded within the basin in an effort to maintain the functionality of the BMP. Sediment grading will be accomplished by manually raking the deposits. • Sediment removal: Surface sediments will be removed when sediment accumulation is greater than 18-inches, or 10 percent of the basin volume, whichever is less. Vegetation removed with any	

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Environmental Effects	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		surface sediment excavation activities will be replaced through reseeding. • Mechanical Components: Regularly scheduled maintenance will be performed on valves, fence gates, locks, and access hatches in accordance with the manufacturers' recommendations. Mechanical components will be operated during each maintenance inspection to assure continued performance. • Elimination of Mosquito Breeding Habitats: The most effective mosquito control program is one that eliminates potential breeding habitats. **Corrective Maintenance** Corrective maintenance is required on an emergency or non-routine basis to correct problems and to restore the intended operation and safe function of a basin. Corrective maintenance activities include: • Removal of Debris and Sediment: Sediment, debris, and trash, which threaten the ability of a basin to store or convey water, will be removed immediately and properly disposed of. • Structural Repairs: Repairs to any structural component of a basin will be made promptly (e.g., within 10 working days). Designers and contractors will conduct repairs where structural damage has occurred.	

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Environmental Effects	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		• Embankment and Slope Repairs: Damage to the embankments and slopes will be repaired quickly (e.g., within 10 working days). • Erosion Repair: Where a reseeding program has been ineffective, or where other factors have created erosive conditions (i.e., pedestrian traffic, concentrated flow, etc.), corrective steps will be taken to prevent loss of soil and any subsequent danger to the performance of a basin. There are a number of corrective actions that can be taken. These include erosion control blankets, riprap, sodding, or reduced flow through the area. Design engineers will be consulted to address erosion problems if the solution is not evident. • Fence Repair: Timely repair of fences (e.g., within 10 working days) will be done to maintain the security of the site. • Elimination of Trees and Woody Vegetation: Woody vegetation will be removed from embankments. • Elimination of Animal Burrows: Animal burrows will be filled and steps taken to remove the animals if burrowing problems continue to occur (filling and compacting). If the problem persists, vector control specialists will be consulted regarding removal steps. This consulting is necessary as the threat of rabies in some areas may necessitate the animals being destroyed rather than relocated.	

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		• General Facility Maintenance: In addition to the above elements of corrective maintenance, general corrective maintenance will address the overall facility and its associated components. If corrective maintenance is being done to one component, other components will be inspected to see if maintenance is needed. **Maintenance Frequency** Maintenance indicators, described above, will determine the schedule of maintenance activities to be implemented at the basin. These basins should not require a rigorous maintenance schedule, once the landscaping is established. The inspection frequency and regular preventative maintenance will indicate when corrective maintenance is necessary. The detention basins must be inspected at least one during the rainy season and at least once between each rainy season. These basins must be maintained so that they continue to function as designed. All inspections and maintenance activities will be documented for submittal to the County of Imperial and the Regional Water Quality Control Board if requested.	
1 Same as PA.	S	Same as PA.	LTS
2 Same as PA.	S	Same as PA.	LTS
3 Same as PA.	S	Same as PA.	LTS
4 No significant impact would occur.	NE	No mitigation recommended.	NE

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Environmental Effects	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
4.12 Biological Resources			
PA Implementation of the Preferred Action Alternative would impact vegetation communities, sensitive species, and jurisdictional waters.	S	**B1 Vegetation Communities** Mitigation for the permanent and temporary impacts to creosote bush-white burr sage scrub, desert wash, and mesquite thicket shall be accomplished through required mitigation acres. Table 4.12-13 identifies the mitigation ratio/requirement and required mitigation for each vegetation community. **B2 Flat-tailed Horned Lizard (FTHL)** ***Construction Measures*** In accordance with the *FTHL Rangewide Management Strategy* (ICC 2003), the measures proposed below are designed to avoid, minimize, and/or compensate for potential direct and indirect effects construction of the proposed project may have on FTHL. The following will be implemented when conducting construction activities on the transmission line and within the creosote bush-white burr sage scrub vegetation in the southwestern corner of the Solar Energy Facility: 1. Prior to ground disturbing activities, an individual shall be designated and approved by the USFWS and BLM as a Designated Biologist[2] (i.e. field contact representative). A Designated Biologist will	LTS

[2] A qualified Designated Biologist must have (1) a bachelor's degree with an emphasis in ecology, natural resource management, or related science; (2) three years of experience in field biology or current certification of a nationally recognized biological society, such as The Ecological Society of America or the Wildlife Society (3) previous experience with applying terms and conditions of a biological opinion; and, (4) the appropriate permit and/or training if conducting focused or protocol surveys for listed or proposed species.

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		be designated for the period during which on-going construction and post-construction monitoring and reporting by an approved biologist is required, such as annual reporting on habitat restoration. Each successive Designated Biologist will be approved by the BLM's Authorized Officer (i.e., BLM field manager, El Centro). The Designated Biologist will have the authority to ensure compliance with the conservation measures for the FTHL and will be the primary agency contact for the implementation of these measures. The Designated Biologist will have the authority and responsibility to halt activities that are in violation of the conservation measures. A detailed list of responsibilities for the Designated Biologist is summarized below. To avoid and minimize impacts to biological resources, the Designated Biologist will: • Notify BLM's Authorizing Officer and the USFWS at least 14 calendar days before initiating ground disturbing activities. • Immediately notify BLM's Authorized Officer and the USFWS in writing if the Project applicant is not in compliance with any conservation measures, including but not limited to any actual or anticipated failure to implement conservation measures within the time periods specified. • Conduct compliance inspections at a minimum of once per month during on-going construction	

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Environmental Effects	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		after clearing, grubbing, and grading are completed, and submit a monthly compliance report to BLM's Authorized Officer until construction is complete. 2. The boundaries of all areas to be disturbed (including staging areas, access roads, and sites for temporary placement of spoils) will be delineated with stakes and flagging prior to construction activities. Spoils will be stockpiled in disturbed areas lacking native vegetation or where habitat quality is poor. To the extent possible, disturbance of shrubs and surface soils due to stockpiling will be minimized. All disturbances, vehicles, and equipment will be confined to the flagged areas. To the extent possible, surface disturbance will be timed to minimize mortality to FTHL (see FTHL Construction Measure #7 below). 3. Approved biological monitor(s) will assist the Designated Biologist in conducting pre-construction surveys and in monitoring of mobilization, ground disturbance, grading, construction, operation, closure, and restoration activities. The biological monitor(s) will have experience conducting FTHL field monitoring, have sufficient education and field experience to understand FTHL biology, be able to identify FTHL scat, and be able to identify and follow FTHL tracks. The Designated Biologist will submit the resume, at least three references, and contact information of the proposed biological monitors to the BLM, CDFG, and USFWS for approval. To avoid	

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		and minimize impacts to biological resources, the Biological Monitors will assist the Designated Biologist with the following: • Be present during construction (e.g., grubbing, grading, solar panel installation) activities that take place in FTHL habitat to avoid or minimize take of FTHL. Activities include, but are not limited to, ensuring compliance with all impact avoidance and minimization measures, monitoring for FTHLs and removing lizards from harm's way, and checking avoidance areas (e.g., washes) to ensure that signs, and stakes are intact and that human activities are restricted in these avoidance zones. • At the end of each work day, inspect all potential wildlife pitfalls (trenches, bores and other excavations) for wildlife and then backfill. If backfilling is not feasible, all trenches, bores, and other excavations will be contoured at a 3:1 slope at the ends to provide wildlife escape ramps, or completely and securely covered to prevent wildlife access. • During construction, examine areas of active surface disturbance periodically, at least hourly, when surface temperatures exceed 29°Celsius (C; 85°F) for the presence of FTHL. 4. Prior to Project initiation, a worker environmental awareness program (WEAP) will be developed and implemented, and will be available in both English	

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		and Spanish. Wallet-sized cards summarizing this information will be provided to all construction, operation, and maintenance personnel. The education program will include the following aspects: • biology and status of the FTHL, • protection measures designed to reduce potential impact to the species, • function of flagging designating authorized work areas, • reporting procedures to be used if a FTHL is encountered in the field, and • driving procedures and techniques, for commuting to, and driving on, the Project site, to reduce mortality of FTHL on roads. 5. FTHLs will be removed from harm's way during all construction activities, per conservation measure #6 below. FTHL removal will be conducted by two or more biological monitors when construction activities are being conducted in suitable FTHL habitat. To the extent feasible, methods to find FTHLs will be designed to achieve a maximal capture rate and will include, but not be limited to using strip transects, tracking, and raking around shrubs. During construction, the minimum survey effort will be 30 minutes per 0.40 ha (30 minutes per 1 ac). Persons that handle FTHLs will first obtain all necessary permits	

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Environmental Effects	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		and authorization from the CDFG. If the species is federally listed, only persons authorized by both CDFG and the USFWS will handle FTHLs. FTHL removal surveys will also include: • A Horned Lizard Observation Data Sheet and a Project Reporting Form, per Appendix 8 of the RMS, will be completed. During construction, quarterly reports describing FTHL removal activity, per the reporting requirements described in Conservation Measure #1 above, will be submitted to the USWFW, BLM, and CDFG. 6. The removal of FTHLs out of harm's way will include relocation to nearby suitable habitat in low-impact (e.g., away from roads and solar panels) areas of the Yuha MA. Relocated FTHLs will be placed in the shade of a large shrub in undisturbed habitat. If surface temperatures in the sun are less than 24° Celsius (C) 75° Fahrenheit (F) or exceed 38°C (100° F), the Designated Biologist or biological monitor, if authorized, will hold the FTHL for later release. Initially, captured FTHLs will be held in a cloth bag, cooler, or other appropriate clean, dry container from which the lizard cannot escape. Lizards will be held at temperatures between 75° F and 90° F and will not be exposed to direct sunlight. Release will occur as soon as possible after capture and during daylight hours. The Designated Biologist or biological monitor will be allowed some judgment and discretion when	

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Environmental Effects	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		relocating lizards to maximize survival of FTHLs found in the Project area. 7. To the maximum extent practicable, grading in FTHL habitat will be conducted during the active season, which is defined as March 1 through September 30, or if ground temperatures are between 24°C (75° F) and 38 °C (100° F). If grading cannot be conducted during this time, any FTHLs found will be removed to low-impact areas (see above) where suitable burrowing habitat exists, (e.g., sandy substrates and shrub cover). 8. Temporarily disturbed areas associated with transmission line construction and staging areas, will be revegetated according to a Habitat Restoration Plan (HRP) approved by the BLM, CEC, CDFG, and Service. The HRP must be approved in writing by the aforementioned agencies prior to the initiation of any vegetation disturbing activities. Restoration involves recontouring the land, replacing the topsoil (if it was collected), planting seed and/or container stock, and maintaining (i.e., weeding, replacement planting, supplemental watering, etc.), and monitoring the restored area for a period of 5 years (or less if the restoration meets all success criteria). Components of the HRP will include: • The incorporation of Desert Bioregion Revegetation/Restoration Guidance measures. These measures generally include alleviating soil	

Proposed Action = PA	Alternative 1 – Alternative Transmission Line Corridor (IVW-2A) = 1	Alternative 2 – Alternative Transmission Line Corridor (IVW-1) = 2	Alternative 3 – Reduced Solar Energy Facility Site = 3	Alternative 4 – No Action/No Project Alternative = 4
Less Than Significant = LTS	Significant = S	Significant and Unavoidable = SU	No Effect = NE	Beneficial Effect = BE

Environmental Effects	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		compaction, returning the surface to its original contour, pitting or imprinting the surface to allow small areas where seeds and rain water can be captured, planting seedlings that have acquired the necessary root mass to survive without watering, planting seedlings in the spring with herbivory cages, broadcasting locally collected seed immediately prior to the rainy season, and covering the seeds with mulch. ***Operations and Maintenance Measures*** In order to reduce the potential impact to FTHL during O&M, the following will be implemented when conducting O&M along the transmission line and within the Solar Energy Facility: 9. No later than January 31 of every year the Project remains in operation, the Designated Biologist will provide the BLM's Authorized Officer, USFWS, CDFG, and the FTHL Interagency Coordinating Committee (ICC) an annual FTHL Status Report, which will include, at a minimum: • A general description of the status of the project site • A copy of the table in the Project biological monitoring report with notes showing the current implementation status of each conservation measure.	

Proposed Action = PA	Alternative 1 – Alternative Transmission Line Corridor (IVW-2A) = 1	Alternative 2 – Alternative Transmission Line Corridor (IVW-1) = 2	Alternative 3 – Reduced Solar Energy Facility Site = 3	Alternative 4 – No Action/No Project Alternative = 4
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Environmental Effects	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		• An assessment of the effectiveness of each completed or partially completed measure in avoiding and minimizing project impacts • A completed a Project Reporting Form from the Flat-tailed Horned Lizard Rangewide Management Strategy (RMS) (ICC 2003) • A summary of information regarding any FTHL mortality in conjunction with the Project's Wildlife Mortality Reporting Program. • Recommendations on how conservation measures might be changed to more effectively avoid, minimize, and offset future project impacts on the FTHL. 10. The Designated Biologist or biological monitor(s) will evaluate and implement the best measures to reduce FTHL mortality along access and maintenance roads, particularly during the FTHL active season (March 1 through September 30). These measures will include: • A speed limit of 15 miles per hour when driving transmission line access roads or maintenance roads within the Solar Energy Facility. The Designated Biologist may reduce this speed limit to 10 mph in areas identified as active wildlife corridors as needed to reduced mortality. All vehicles required for O&M along the transmission line and within the Solar Energy Facility must	

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Environmental Effects	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		remain on the designated access/maintenance roads. Cross country vehicle and equipment use outside of designated work areas shall be prohibited. • Pedestrian access outside of the designated access roads is permitted year-round as long as no ground disturbing activities takes place (such as weed abatement or other activities that would require soil disturbance beyond pedestrian footprints). This pedestrian access includes occasional inspections of solar panels and other on-site facilities. • O&M activities including weed abatement, or any other O&M activity that may result in ground disturbance outside of the designated access roads will be conducted outside of the FTHL active season whenever feasible. • If any O&M activities must be conducted during the FTHL active season that may result in ground disturbance, such as weed abatement, washing of solar panels, or vehicles requiring access outside of a designated access road, a biological monitor will be present during activities to reduce FTHL impacts. Implementation of these measures would be based on annual FTHL activity levels, the best professional judgment of the Designated Biologist, and site specific road utilization. FTHL found on	

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Environmental Effects	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		access/maintenance roads will be relocated out of harm's way by the DB or qualified FTHL monitor. ***Compensation*** In accordance with the *Flat-tailed Horned Lizard Rangewide Management Strategy*, mitigation would be required for impacts to FTHL habitat, as shown in 4.12-14. FTHL are known to occur in the creosote bush–white burr sage scrub and desert wash vegetation along the proposed transmission corridors. In accordance with the *Rangewide Management Strategy*, compensation for impacts to this habitat within the MA will be at a 6:1 ratio. **B3 General Project Mitigation Recommendations** A number of general measures, designed to reduce potential indirect impact to resources in the project area as well as restore and/or improve the quality of habitat in the project area, will be implemented after construction as standard operations and maintenance protocols. In order to reduce the potential impact to biological resources during operations and maintenance, the following should be implemented: • A brief Annual Report will be submitted to the relevant resource agencies documenting the implementation of the following general measures as well as any resource-specific measures such as habitat restoration and/or compensation:	

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Environmental Effects	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		– Speed limits along all transmission access roads and within the solar energy facility should not exceed 15 miles per hour. Transmission access for O&M activities shall be kept to the minimum necessary for operations and be accomplished during the winter months when feasible. This limited access and annual timing is designed to prevent FTHL mortality. – Annual formal Worker Education Training should be established for all employees and any subcontractors at the ISEC South to provide instruction on sensitive species identification; measures to avoid contact, disturbance, and injury; and reporting procedures in the case of dead and/or injured wildlife species. The USFWS and the BLM shall be notified per approved guidelines and channels of authority if mortality should occur. – A *Raven Control Plan* will be prepared and implemented that details specific measures for storage and disposal of all litter and trash produced by the solar energy facility and its employees. This plan is designed to discourage scavengers that may also prey on wildlife in the vicinity. This plan will be approved by the BLM and CAFG. – A *Weed Management Plan* will be prepared and implemented that describes specific on-going measures to remove weedy plant species from the solar energy facility and encourages	

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Less Than Significant = LTS	Significant = S	Significant and Unavoidable = SU	No Effect = NE	Beneficial Effect = BE

Environmental Effects	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		native plant growth. This plan should be prepared in conformance with herbicide and native seed/planting guidelines outlined in the project's Habitat Restoration Plan, and should be approved by the BLM. – A *Wildlife Mortality Reporting Program* will be prepared and implemented to identify and report any dead or injured animals observed by personnel conducting O&M activities within the solar energy facility and along the transmission line. An appropriate reporting format for dead or injured wildlife observed within the solar energy facility and along the transmission line will be developed in coordination with the USFWS and the BLM. In addition, reporting of any dead or injured avian species found along the transmission line will follow the existing USFWS Bird Fatality/Injury Reporting Program (https://birdreport.fws.gov/). – An Avian and Bat Protection Plan (ABPP) will be prepared that will outline conservation measures for construction and O&M activities that might reduce potential impacts to bird populations. These measures incorporate APLIC design guidelines for overhead utilities (2006) by incorporating recommended or other methods that enhance the visibility of the lines to avian species. The ABPP will also address disturbance minimization, timing of construction, minimization of activities that would attract prey and predators, and incorporation of the Wildlife	

Proposed Action = PA	Alternative 1 – Alternative Transmission Line Corridor (IVW-2A) = 1	Alternative 2 – Alternative Transmission Line Corridor (IVW-1) = 2	Alternative 3 – Reduced Solar Energy Facility Site = 3	Alternative 4 – No Action/No Project Alternative = 4
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Environmental Effects	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		Mortality Reporting Program and Raven Control Plan discussed above. **B4 Burrowing Owl** Burrowing owls have been observed in the abandoned agricultural fields within the proposed solar energy facility. The following measures will avoid, minimize, or mitigate potential impact to burrowing owl during construction activities: 1) Initial grading of the agricultural fields project footprint should take place between September 1 and January 31 to avoid impact to breeding burrowing owls. If construction is to begin during the breeding season, it is recommended that the measures below are implemented prior to February 1 to discourage the nesting of the burrowing owls within the area of impact. As construction continues, any area where owls are sighted should be subject to frequent surveys for burrows before the breeding season begins, so that owls can be relocated before nesting occurs. 2) Within 30-days prior to initiation of construction, a pre-construction clearance surveys for this species shall be conducted to determine the presence or absence of this species within the construction area. This is necessary, as burrowing owls may not use the same burrow every year; therefore, numbers and locations of burrowing owl burrows at the time of	

Proposed Action = PA	Alternative 1 – Alternative Transmission Line Corridor (IVW-2A) = 1	Alternative 2 – Alternative Transmission Line Corridor (IVW-1) = 2	Alternative 3 – Reduced Solar Energy Facility Site = 3	Alternative 4 – No Action/No Project Alternative = 4
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Environmental Effects	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		construction may differ from the data collected during previous focused surveys. The proposed construction areas will need to be clearly demarcated in the field by the project engineers prior to the commencement of the pre-construction clearance survey. The survey should follow the protocols provided in the *Burrowing Owl Survey Protocol and Mitigation Guidelines*. 3) If active burrows are present within the project footprint, the following mitigation measures should be implemented. Passive relocation methods are to be used to move the owls out of the impact zone. Passive relocation should only be done in the non-breeding season. This includes covering or excavating all burrows and installing one-way doors into occupied burrows. This will allow any animals inside to leave the burrow, but will exclude any animals from re-entering the burrow. A period of at least one week is required after the relocation effort to allow the birds to leave the impacted area before construction of the area can begin. The burrows should then be excavated and filled in to prevent their reuse. The destruction of the active burrows on-site requires construction of new burrows at a mitigation ratio of 1:1 at least 50 meters from the impacted area and must be constructed as part of the above-described relocation efforts. The construction of new burrows will take place on BLM land to the north or south of the solar field, and outside of the proposed transmission corridor; any	

Proposed Action = PA	Alternative 1 – Alternative Transmission Line Corridor (IVW-2A) = 1	Alternative 2 – Alternative Transmission Line Corridor (IVW-1) = 2	Alternative 3 – Reduced Solar Energy Facility Site = 3	Alternative 4 – No Action/No Project Alternative = 4
Less Than Significant = LTS	Significant = S	Significant and Unavoidable = SU	No Effect = NE	Beneficial Effect = BE

Environmental Effects	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		relocated burrows onto BLM lands will be approved by the agencies to prevent conflicts in future land use. 4) As the construction schedule and details are finalized, an approved biologist shall prepare a monitoring plan that will detail the methodology proposed to minimize and mitigate impact to this species. Passive relocation, destruction of burrows, and construction of artificial burrows can only be completed upon approval by CDFG. ***Compensation*** CDFG's mitigation guidelines for burrowing owl (1995) requires a minimum of 6.5 acres of foraging habitat per pair or unpaired resident bird to be acquired and protected to offset the loss of foraging and burrow habitat on the project site. Assuming the project impacts to two active burrows, a minimum of 13 acres would be permanently protected to offset this loss. This mitigation would be implemented in concert with the purchase/acquisition of mitigation for FTHL as detailed in Mitigation Measure B2, provided at least 13 acres of the FTHL mitigation contains suitable habitat for burrowing owl and is approved by CDFG. If FTHL mitigation is in the form of an in lieu fee to be used within the Yuha MA, which also provides suitable habitat for BUOW, it is assumed that the BLM or ICC's use of the funds within the MA will also improve or increase habitat	

Proposed Action = PA	Alternative 1 – Alternative Transmission Line Corridor (IVW-2A) = 1	Alternative 2 – Alternative Transmission Line Corridor (IVW-1) = 2	Alternative 3 – Reduced Solar Energy Facility Site = 3	Alternative 4 – No Action/No Project Alternative = 4
Less Than Significant = LTS	Significant = S	Significant and Unavoidable = SU	No Effect = NE	Beneficial Effect = BE

Environmental Effects	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		for BUOW and will therefore fulfill the BUOW mitigation requirement. **B5 Nesting Raptors** Raptors and active raptor nests are protected under California Fish and Game Code 3503.5, 3503, 3513. In order to prevent direct and indirect noise impact to nesting raptors such as red-tailed hawk, the following measures should be implemented: • Initial grading and construction within the Proposed Action site should take place outside the raptors' breeding season of February 1 to July 15. • If construction occurs between February 1 and July 15, a qualified biologist shall conduct a pre-construction clearance survey for nesting raptors in suitable nesting habitat (e.g., tall trees or transmission towers) that occurs within 500 feet of the survey area. If any active raptor nest is located, the nest area will be flagged, and a 500-foot buffer zone delineated, flagged, or otherwise marked. No work activity may occur within this buffer area, until a qualified biologist determines that the fledglings are independent of the nest. **Operations and Maintenance Impact Mitigation** Mitigation for potential impact to raptors and other avian species due to collision with the proposed transmission lines are discussed below in B6 Migratory Birds and Other Sensitive Non-migratory Species.	

Proposed Action = PA	Alternative 1 – Alternative Transmission Line Corridor (IVW-2A) = 1	Alternative 2 – Alternative Transmission Line Corridor (IVW-1) = 2	Alternative 3 – Reduced Solar Energy Facility Site = 3	Alternative 4 – No Action/No Project Alternative = 4
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Environmental Effects	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		B6 Migratory Birds and Other Sensitive Non-migratory Bird Species In order to reduce the potential indirect impact to migratory birds, bats and raptors, an Avian and Bat Protection Plan (ABPP) will be prepared following the USFWS's guidelines and then implemented by the Project proponent. This ABPP will outline conservation measures for construction and O&M activities that might reduce potential impacts to bird populations and will be developed by the applicant in conjunction with and input from the USFWS. **Construction Measures** Construction conservation measures to be incorporated into the ABPP include: • Minimizing disturbance to vegetation to the maximum extent practicable. • Clearing vegetation outside of the breeding season. If construction occurs between February 1 and September 15, a qualified biologist shall conduct a pre-construction clearance survey for nesting birds in suitable nesting habitat that occurs within the proposed area of impact. Pre-construction nesting surveys will identify any active migratory birds (and other sensitive non-migratory birds) nests. Direct impact to any active migratory bird nest should be avoided.	

Proposed Action = PA	Alternative 1 – Alternative Transmission Line Corridor (IVW-2A) = 1	Alternative 2 – Alternative Transmission Line Corridor (IVW-1) = 2	Alternative 3 – Reduced Solar Energy Facility Site = 3	Alternative 4 – No Action/No Project Alternative = 4
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Environmental Effects	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		• Minimize wildfire potential. • Minimize activities that attract prey and predators. • Control of non-native plants. • Apply APLIC design guidelines for overhead utilities (APLIC 2006) by incorporating recommended or other methods that enhance the visibility of the lines to avian species. **Operations and Maintenance Measures** Operations and maintenance conservation measures to be incorporated into the ABPP include: • Preparation of a Raven Control Plan that avoids introducing water and food resources in the area surrounding the Solar Energy Facility. • Incorporate APLIC guidelines for overhead utilities as appropriate to minimize avian collisions with transmission facilities (APLIC 2006). • Minimize noise • Minimize use of outdoor lighting. Implement post—construction avian monitoring that will incorporate the Wildlife Mortality Reporting Program **B7 Jurisdictional Waters** The proposed project will impact total of 0.5 acres of ACOE jurisdictional resources, and 7.2 acres of CDFG	

Proposed Action = PA	Alternative 1 – Alternative Transmission Line Corridor (IVW-2A) = 1	Alternative 2 – Alternative Transmission Line Corridor (IVW-1) = 2	Alternative 3 – Reduced Solar Energy Facility Site = 3	Alternative 4 – No Action/No Project Alternative = 4
Less Than Significant = LTS	Significant = S	Significant and Unavoidable = SU	No Effect = NE	Beneficial Effect = BE

Environmental Effects	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		jurisdictional resources. A breakdown of permanent and temporary impacts, as well as the mitigation required to offset these impacts are shown for all of the alternatives on Table 4.12-15. Mitigation for these impacts will be conducted in concert with the purchase/acquisition of mitigation for FTHL as detailed in Mitigation Measure B2. As the acreage for FTHL mitigation well exceeds the amount required for impacts to CDFG resources, it is not anticipated that additional mitigation would be necessary as long as the FTHL mitigation meets the requirements and approval of CDFG and ACOE as mitigation for jurisdictional resources. Impact to jurisdictional waters of the U.S. on-site would require a permit under Section 404 CWA from the ACOE and a Section 401 state water quality certification from the RWQCB. In addition, a Section 1600 Streambed Alteration Agreement would also need to be authorized for impact to CDFG resources.	
1 Implementation of Alternative A Transmission Line Corridor would impact vegetation communities, sensitive species, and jurisdictional waters.	S	**B8 Vegetation Communities** Mitigation for the permanent and temporary impacts to creosote bush-white burr sage scrub, desert wash, and mesquite thicket shall be accomplished through required mitigation acres. Table 4.12-16 identifies the mitigation ratio/requirement and required mitigation for each vegetation community.	LTS
2 Implementation of Alternative B Transmission Line Corridor would impact vegetation communities,	S	MM B2 through B7 identified above for PA will also be required to be implemented for the Alternative B	LTS

Proposed Action = PA	Alternative 1 – Alternative Transmission Line Corridor (IVW-2A) = 1	Alternative 2 – Alternative Transmission Line Corridor (IVW-1) = 2	Alternative 3 – Reduced Solar Energy Facility Site = 3	Alternative 4 – No Action/No Project Alternative = 4
Less Than Significant = LTS	Significant = S	Significant and Unavoidable = SU	No Effect = NE	Beneficial Effect = BE

Environmental Effects	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
sensitive species, and jurisdictional waters.		Transmission Line Corridor, if this Alternative were to be selected. **B9 Flat-tailed Horned Lizard Habitat Consensation** In accordance with the *Flat-tailed Horned Lizard Rangewide Management Strategy*, mitigation for Construction and Operations and Maintenance would be required for impacts to FTHL habitat, as discussed in B2. Compensation specific to Alternative 1-Alternative Transmission Line Corridor is shown in Table 4.12-17. **B10 Vegetation Communities** Mitigation for the permanent and temporary impacts to creosote bush-white burr sage scrub, desert wash, and mesquite thicket shall be accomplished through required mitigation acres. Table 4.12-18 identifies the mitigation ratio/requirement and required mitigation for each vegetation community. **B11 Flat-tailed Horned Lizard Habitat Compensation** In accordance with the *Flat-tailed Horned Lizard Rangewide Management Strategy*, mitigation for Construction and Operations and Maintenance would be required for impacts to FTHL habitat, as discussed in B2. Compensation specific to Alternative 2-Alternative Transmission Line Corridor is shown in Table 4.12-19. **B12 Jurisdictional Resources Compensation** The Alternative 2-Alternative Transmission Line Corridor will impact total of 1.1 acres of ACOE jurisdictional resources, and 7.7 acres of CDFG jurisdictional resources.	

Proposed Action = PA	Alternative 1 – Alternative Transmission Line Corridor (IVW-2A) = 1	Alternative 2 – Alternative Transmission Line Corridor (IVW-1) = 2	Alternative 3 – Reduced Solar Energy Facility Site = 3	Alternative 4 – No Action/No Project Alternative = 4
Less Than Significant = LTS	Significant = S	Significant and Unavoidable = SU	No Effect = NE	Beneficial Effect = BE

Environmental Effects	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		A breakdown of permanent and temporary impacts, as well as the mitigation required to offset these impacts are shown for all of the alternatives on Table 4.12-20. Mitigation for these impacts will be conducted in concert with the purchase/acquisition of mitigation for FTHL as detailed in Mitigation Measure B11. As the acreage for FTHL mitigation well exceeds the amount required for impacts to CDFG resources, it is not anticipated that additional mitigation would be necessary as long as the FTHL mitigation meets the requirements and approval of CDFG and ACOE as mitigation for jurisdictional resources. **B13 Vegetation Communities** Mitigation for the permanent and temporary impacts to creosote bush-white burr sage scrub, desert wash, and mesquite thicket shall be accomplished through required mitigation acres. Table 4.12-21 identifies the mitigation ratio/requirement and required mitigation for each vegetation community. **B14 Flat-tailed Horned Lizard Habitat Compensation** In accordance with the *Flat-tailed Horned Lizard Rangewide Management Strategy*, mitigation for Construction and Operations and Maintenance would be required for impacts to FTHL habitat, as discussed in B2. Compensation specific to Alternative A is shown in Table 4.12-22.	
1 Same as PA.	NE	Same as PA.	NE
2 Same as PA.	NE	Same as PA.	NE
3 Same as PA.	NE	Same as PA.	NE

Proposed Action = PA	Alternative 1 – Alternative Transmission Line Corridor (IVW-2A) = 1	Alternative 2 – Alternative Transmission Line Corridor (IVW-1) = 2	Alternative 3 – Reduced Solar Energy Facility Site = 3	Alternative 4 – No Action/No Project Alternative = 4
Less Than Significant = LTS	Significant = S	Significant and Unavoidable = SU	No Effect = NE	Beneficial Effect = BE

Environmental Effects	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
NA No new development is proposed under the No Action/No Project Alternative. Therefore, no significant impact would occur.	NE	No mitigation recommended.	NE
4.13 Paleontological Resources			
PA Paleontological resources potentially located on the project site could be adversely affected during construction of the solar energy facility and transmission lines as a result of disturbance by grading or construction activities; unauthorized, unmonitored excavations; unauthorized collection of fossil materials; dislodging of fossils from their preserved environment (fossils out of context); and/or physical damage of fossil specimens. No impacts to paleontological resources are anticipated during operation of the Proposed Action.	S	**PR1** Prior to grading or any ground disturbance, a paleontological field survey shall be conducted for the project site. The paleontological field survey and subsequent monitoring activities shall be in accordance with the BLM's "Guidelines for Assessment and Mitigation of Potential Impacts to Paleontological Resources." **A. Definition of Field Surveys.** Field Surveys are pedestrian surveys to be performed in areas where significant fossils can be expected to occur within the boundary and immediate vicinity of the anticipated disturbance, or where the probability of encountering significant fossils is unknown. 1. Field surveys are performed prior to any surface disturbing activities. Before conducting field surveys, the project location shall be as final as possible and any staking of the location shall be complete. 2. Surveys are conducted by a BLM Regional Paleontologist, Paleontology Lead, Paleontology Coordinator, appropriately trained and supervised BLM staff, or by a BLM-permitted consulting paleontologist hired by the project proponent.	LTS

Proposed Action = PA	Alternative 1 – Alternative Transmission Line Corridor (IVW-2A) = 1	Alternative 2 – Alternative Transmission Line Corridor (IVW-1) = 2	Alternative 3 – Reduced Solar Energy Facility Site = 3	Alternative 4 – No Action/No Project Alternative = 4
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Environmental Effects	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		(a) At the Field Manager's discretion, other qualified BLM staff may conduct surveys on small projects. Performance of surveys by BLM staff must also be approved by the Regional Paleontologist, Paleontology Lead, or Paleontology Coordinator. (b) Surveys that are complex in nature, constrained by construction schedules, or otherwise cannot be performed by BLM staff shall be performed by a consulting paleontologist holding a valid BLM Paleontological Resources Use Permit. Submission of reports may be done directly by the paleontologist to the BLM. The project proponent is also responsible for all costs associated with the survey, including the consulting paleontologist's fees and charges, all survey costs, fossil preparation to the basic identification stage, analyses, reports, and curation costs directly related to mitigation of the project's anticipated impacts. Any required monitoring and mitigation costs are also the responsibility of the project proponent. These costs are to be negotiated between the project proponent and the consulting paleontologist prior to beginning any data gathering, analysis, or field work, and these negotiations do not require BLM involvement or approval. Any new,	

Proposed Action = PA	Alternative 1 – Alternative Transmission Line Corridor (IVW-2A) = 1	Alternative 2 – Alternative Transmission Line Corridor (IVW-1) = 2	Alternative 3 – Reduced Solar Energy Facility Site = 3	Alternative 4 – No Action/No Project Alternative = 4
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Environmental Effects	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		additional, or modified curation agreements between the paleontologist and the official repository must be in place prior to starting field work. (c) Authorization for an activity to proceed cannot be given by a consulting paleontologist. Performance of the survey, either by a consulting paleontologist or BLM staff, or submission of the report DOES NOT constitute approval for the activity to proceed. The BLM must review the report, including adequacy of the field methods and findings. The Authorized Officer must approve the findings and determine the need for monitoring prior to approval to proceed. **B. Conducting Field Surveys.** Field surveys must be performed by the Principal Investigator or an approved Field Agent or Field Monitor (as defined in the following section) as authorized under a Paleontological Resource Use Permit, or by a BLM Regional Paleontologist or qualified BLM designee. Field surveys and collections performed as a mitigation measure are not intended to be scientific research studies, but are meant to identify, avoid, or recover paleontological resources to prevent damage or destruction from project activities. However, proper scientific techniques and procedures must be utilized during all mitigation efforts. Safety should be an important	

Proposed Action = PA	Alternative 1 – Alternative Transmission Line Corridor (IVW-2A) = 1	Alternative 2 – Alternative Transmission Line Corridor (IVW-1) = 2	Alternative 3 – Reduced Solar Energy Facility Site = 3	Alternative 4 – No Action/No Project Alternative = 4
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Environmental Effects	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		consideration; therefore, surveys should not be attempted on cliff faces, in open, non-reinforced trenches deeper than five feet, or other unsafe areas. 1. The scope of the survey is dependent upon the scale of the project. Small projects are defined as less than 10 acres, or, if linear, less than five miles; large projects exceed those dimensions. 2. At the start of field work, the consulting paleontologist (paleontologist) must contact the Paleontology Coordinator in each affected Field Office who may require a visit to that office. After an initial visit each year, the paleontologist may contact the Field Office by telephone or email prior to subsequent field trips, at the discretion of the Field Office. Information about the survey schedule, additional personnel, emergency field contact information, and any other pertinent data shall be provided to the Paleontology Coordinator. The Field Office will inform the paleontologist of any conditions that may impact the survey, such as fire danger or restrictions, drought restrictions, wildlife timing restrictions, management restrictions, road restrictions or construction, and any other relevant information.	

Proposed Action = PA	Alternative 1 – Alternative Transmission Line Corridor (IVW-2A) = 1	Alternative 2 – Alternative Transmission Line Corridor (IVW-1) = 2	Alternative 3 – Reduced Solar Energy Facility Site = 3	Alternative 4 – No Action/No Project Alternative = 4
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Environmental Effects	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		3. During the field survey, the paleontologist surveys, locates, and documents all paleontological resources within 200 feet of the proposed project location or corridor, or less distance upon approval. (a) Where significant paleontological resources are at risk, data collection alone does not constitute mitigation of damage. All significant fossils that may be damaged or destroyed during project activities must be collected, along with all relevant contextual and locational data. Specimens must be collected during the survey or prior to commencement of any surface-disturbing activities. (b) In many cases, isolated gar scales, chelonid (turtle) carapace or plastron fragments, crocodile and fish teeth, and unidentifiable bone fragments do not need to be collected. The location must be recorded and a description of the fossil material noted in the field notes and on a BLM Locality Form as part of the report. The context of these types of fossils should be considered, as they may represent rare occurrences or unusual faunal associations, and thus may be scientifically important and must be documented and voucher specimens collected where appropriate.	

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Environmental Effects	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		(c) Occurrences of plant or invertebrate fossils should be recorded and representative examples or voucher specimens collected where appropriate. Additional mitigation measures may be appropriate in some cases for these types of localities. (d) If a large specimen or a concentration of significant fossils is located during the field survey, the available time and/or personnel may not allow for full recovery during the survey. The specimen(s) and locality(ies) should be stabilized as needed, and a determination made as to whether avoidance is necessary or whether full recovery of the specimen is required at a later time prior to disturbance activities. The Authorized Officer and project proponent must be notified, the mitigation alternatives discussed including funding for recovery, and a decision reached as soon as possible. If avoidance or later recovery is selected for mitigation, the find should be stabilized, buried if needed to protect the fossils and context, and appropriate measures implemented to reduce adverse effects from natural or human causes. 4. During the survey, locations or areas that exhibit a lithology suggesting a high probability of subsurface fossil material must be recorded,	

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		and a recommendation for the need for on-site monitoring, spot-checking, or testing shall be made in the report. This may include areas where no fossil material was found on the surface during the survey. The recommendation should consider the size and type of planned disturbance, such as the depth of a trenching operation or the acreage of surface disturbance. 5. Surveys must be performed only during times when the ground is visible. Biological timing restrictions, such as critical nesting or birthing times, may confine or delay field activities. **C. Report of Survey Findings.** After completion of the field survey, the paleontologist must file a written report with the BLM and the designated repository. If required, a copy should also be filed with the project proponent. This report must summarize the results of the survey as well as appropriate geological and paleontological background information as described below. It should also include any recommendations for on-site monitoring or other mitigation. For small projects (less than 10 acres), the report must be filed within 30 days after completion of the survey unless specific approval for a different time frame has been received from the BLM. The time frame for submission of the report for large projects should be negotiated during project scoping. On a case-by-case basis, approval to begin project activities may be granted for those	

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Environmental Effects	Level of Significance Before Mitigation	Mitigation Measures	Level of Significance After Mitigation
		portions of the project area noted to be less paleontologically sensitive prior to final approval of the report. 1. Reports of the general findings and the background information must be submitted to the BLM project manager or Authorized Officer (if appropriate), the Paleontology Lead or Regional Paleontologist, and each affected Field Office. Reports must include the information and details as specified on page 9 of Attachment 1 of the BLM's "Guidelines for Assessment and Mitigation of Potential Impacts to Paleontological Resources", as applicable. 2. Exact locations of fossil localities contained in these reports are considered sensitive and must not be included in any public document. The BLM locality form (8270-3) or equivalent, 1:24000 scale map showing the localities, and any other information containing specific fossil locations may be bound separately or placed in a separate section to allow for preservation of confidential locality data. A copy of this confidential section must be submitted to the Paleontology Lead (in some cases, two copies may be required). A copy for each affected Field Office may be required. Another copy must be submitted to the official repository with the collected materials.	

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		3. BLM GPS recording and data standards must be used to report paleontological locality data. Existing USGS topographic maps are often based on the NAD27 standard, so locality data calculated from a map base must be converted before submission. Data must be recorded and reported with a mean error of +/- 12.5 meters or less, at a 95 percent confidence level. For small localities, data should be reported as point data. Larger polygonal localities should be reported using coordinates of a centroid and a description of the approximate size, or the key coordinate points of a bounding polygon. Linear features, such as roads or surveyed project boundaries, must be reported as line data. The 1:24000 scale map(s) accompanying the locality forms should graphically illustrate the locality, either as a point or an outline of the locality as appropriate, and be clearly labeled with the locality or field number. **D. Report Approval.** The Authorized Officer will analyze the Survey Report for adequacy within 10 working days of receipt. Notification accepting the report, or explaining any identified deficiencies, will be sent to the consulting paleontologist and the project proponent with a copy placed in the project file. Any deficiencies must be corrected as soon as possible, usually initiated within five working days, and the report must be resubmitted for approval.	

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		Any resubmissions must be prompt, but consideration will be made for the amount of time needed for major corrections. Deficiencies directly affecting the survey, such as inadequate survey procedures or incomplete data, must be corrected before granting approval for the project to proceed. Deficiencies not directly affecting the survey, such as curation issues, will not prevent approval of the project, but must be corrected as soon as possible. **Determination of Further Mitigation Requirements.** Based on the field survey, the need for additional mitigation to protect paleontological resources shall be determined. The Authorized Officer, in consultation with Regional Paleontologist or the Paleontology Lead, shall analyze the Survey Report for survey findings and any mitigation recommendations. If no further mitigation is needed, the Authorized Officer will promptly notify the project proponent that there are no additional paleontological surveys or mitigation measures required, and the project may proceed pending any other approvals. The project file must be documented indicating acceptance of the survey report and identifying any additional mitigation requirements. If it is determined that additional mitigation efforts are needed to protect or preserve the paleontological resources, the project proponent will be notified as soon as possible. The Authorized Officer and/or the Paleontology Lead usually develop and approve the mitigation procedures or recommend a project be redesigned in consultation with the project	

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		proponent. Factors such as locality or specimen significance, economics, safety, and project urgency will be considered when developing mitigation measures. Additional mitigation measures shall be developed and implemented as timely as possible so as not to delay project actions. **A. Relocation.** The preferred mitigation technique is to change the project location based on the results of the field survey. Relocation, however, may necessitate a field survey of the new area, as well as resurveys by other resource specialists. Anticipation of this contingency prior to or during the original survey may allow for survey of an expanded area at the same time. If relocation will eliminate impacts and is acceptable to all parties, then a report to the file, including a map showing the original and revised locations, must be completed documenting the change. Approval for the project to proceed in the revised location may then be granted by the Authorized Officer to the project proponent. When avoidance is not possible, appropriate mitigation may include excavation or collection (data recovery), stabilization, monitoring, protective barriers and signs, or other physical and administrative protection measures. **B. Deferred Fossil Collection.** In some cases, fossil material may have been identified, but not completely collected during the initial field survey,	

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		such as a partial dinosaur or other large fossil assemblage. It may be possible to complete the recovery of this material and all related data prior to beginning construction activities, and thus mitigate the adverse impact. This may require a shift in the project schedule and must be coordinated with the project proponent. Approval by the Authorized Officer for the project to proceed will only be granted when recovery of the fossil material and field data is completed. A report to the file and the project proponent documenting the recovery and indicating that no further mitigation is required must be completed, and the report signed by the Authorized Officer. If the discovery cannot be fully collected within the available time frame, it may have to be avoided by relocating or redesigning the project. **PR2** Based on the field survey and reporting results identified in Mitigation Measure PR-1, a Monitoring Plan shall be developed and implemented (if required). A monitoring plan can be developed by a BLM paleontologist or a qualified paleontologist hired by the proponent. The plan must be appropriately scaled to the size and complexity of the anticipated monitoring. If developed by a third party, the appropriate Paleontology Lead or Regional Paleontologist shall review the plan for sufficiency prior to acceptance.	

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		Monitoring of the project may proceed when the monitoring plan is approved by the Authorized Officer. A monitoring plan indicates the treatments recommended for the area of the proposed disturbance and must minimally address the following: 1. The recommended approach to additional specimen collection, such as total or partial recovery or sampling; and, 2. The specific locations and intensity of monitoring or sampling recommended for each geologic unit, stratigraphic layer, or area impacted. Monitoring intensity is determined based on the analysis of existing data and/or field surveys and any previous monitoring efforts. **Types of Monitoring.** There are two types of monitoring: 1) on-site, performed during ongoing operations, and 2) spot-checks, performed during or after disturbance, or at key times during the progress of the project. **1. On-site monitoring** – In areas with a high probability for buried fossils, the presence of a monitor at the site of disturbance at all times that disturbance is occurring may be warranted. The need for a full-time monitor is based on the findings of the survey, the local geology, and the proposed actions. Efforts will be made to complete fossil recovery with minimal work stoppage. However, in some cases, an extended period of work stoppage may be required, so coordination with the project proponent or representative is important. Prior to	

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		beginning the monitoring work, the monitor, company supervisor, and machinery operators shall agree on procedures for brief work stoppages to allow for examination of finds. It is critical that safety be of utmost concern because of the presence of heavy machinery and open trenches. The monitor must assess any finds, collect loose fossil material and related data, and take appropriate steps to mitigate any current or potential damage. Consideration of the size of the expected fossils must also be considered; for example, microfossils may not be visible during excavation activities. It may be appropriate to collect samples of matrix for later recovery of microvertebrate fossils or other analyses. Activities planned to occur during night time should be assessed relative to the potential to uncover significant fossils. Fossils may not be visible at night in trenching or grading operations, so construction activities may need to be suspended during night time in sensitive areas. **2. Spot-checking** – In areas with a moderate to high probability for unknown fossil material, it may be more appropriate to check only at key times rather than maintain continuous monitoring of operations. Key times for scheduling spot-checking are when the fossil-bearing bedrock is exposed to view or prior to placing spoil material back into the excavation. Examples of these key times may be when a pipeline trenching operation is complete but before pipe is placed and the trench backfilled or prior to	

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		redistribution of topsoil. Spot-checking requires close coordination with the project proponent and the paleontologist, and usually requires the paleontologist to be available on short notice. In some instances, it may be advantageous to allow rain and/or wind to erode away loose matrix and concentrate fossil material to increase visibility. The paleontologist will coordinate with the project proponent to allow sufficient time for this action to occur, as appropriate to conditions, expected fossil material, and construction schedules. The paleontologist should report potentially fossiliferous areas in the final report to allow for future assessment of sites, even if no fossils were located during the project monitoring. **Types of Field Personnel.** It may be necessary to employ a number of paleontology field personnel simultaneously. There may be a lack of fully qualified paleontologists to perform all the necessary monitoring during the scheduled times of construction. Use of additional personnel for field work is permissible, but Field Agents and Field Monitors (described below) must be requested by the Permittee and authorized by the BLM prior to field work. 1. **Principal Investigator** – The person listed as Permittee (Permit item 1a) on the Paleontological Resources Use Permit is the Principal Investigator (PI) and is responsible for all actions under the permit, for meeting all permit terms and conditions, and for the	

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		performance of all other personnel. This person is also the contact person for the project proponent and the BLM. **2. Field Agent** – Other qualified paleontologists may perform field work independently of the PI under the conditions of this permit. Résumés must be submitted to BLM and must demonstrate qualifications equivalent to those of Permittees. Field Agents must be listed on the permit under "Name(s) of individual(s) responsible for planning, supervising, and carrying out fieldwork" (Permit item 8) or authorized in a separate letter from BLM. They must follow all the permit terms and conditions applicable to field work and must carry a copy of the permit, included terms and conditions, and separate authorizing letter (if used) while in the field. Field work results must be reported to the PI, who will then submit required reports. **3. Field Monitor** – Field Monitors may be utilized for supplemental on-site monitoring of surface-disturbing activities when the PI or a Field Agent is performing field work elsewhere. Field Monitors must have sufficient field experience to demonstrate acceptable knowledge of fossil identification, collection methods, and paleontological techniques. The PI must supply a summary of each person's experience to the BLM prior to field work. Field Monitors must be approved by the BLM prior to performing field work and must carry a copy of the permit while in the field. The PI or Field Agent must	

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		be in communication with the Field Monitor using a portable communication device, such as a cell phone or two-way radio, and are required to be near enough to the Field Monitor to allow for prompt examination of all fossil discoveries (no more than two hours away) by the PI or Field Agent. 4. **Field Assistant** – Additional personnel not meeting the previously cited experience or knowledge levels may be utilized during field work, but must be under direct, on-site supervision of either the PI or a Field Agent as part of a supervised crew. Field assistants must have at least four to eight hours of training or experience received from a qualified paleontologist in identifying paleontological resources prior to performing field work or when first utilized in this capacity. A listing of all Field Assistants (including contact information) must be supplied prior to any field work. All discoveries made by a Field Assistant must be immediately reported to the PI or Field Agent on site. To ensure proper supervision, an appropriate ratio of Field Assistants per PI or Field Agent must be maintained. The complexity of the project, the area to be covered, and the experience of the assistants are some of the factors that should be considered in determining the proper ratio, but commonly five to seven assistants is the maximum number that can be supervised by one PI or Field Agent. **Work Stoppage.** If significant fossil material is discovered during construction activities, the PI, Field Agents, and	

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		Field Monitors have the authority to temporarily halt surface disturbing actions until an assessment of the find is completed and appropriate protection measures taken. Efforts will be made to complete fossil recovery with minimal work stoppage. However, in some cases, an extended period of work stoppage may be required. If the paleontological resource can be avoided, mitigated, or collected within approximately two hours, work may resume after approval from the PI or Field Agent, and the Authorized Officer must be notified as soon as possible of the discovery and any mitigation efforts that were undertaken. If the find cannot be mitigated within a reasonable time (two hours), the concurrence of the Authorized Officer or official representative for a longer work stoppage must be obtained. Work may not resume until approval is granted from both the PI or Agent and the Authorized Officer. **PR3** Upon completion of all field work, including survey and monitoring, the PI must submit within 30 days, a written final report to the Authorized Officer, Paleontology Lead, and the designated repository. A copy of the report may be provided to the project proponent if required, but without the BLM Locality forms. Reports must include the details and information as specified on page 14 of Attachment 1 of the BLM's "Guidelines for Assessment and Mitigation of Potential Impacts to Paleontological Resources", as applicable.	

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		If the survey was performed by BLM, a report similar in contents must be written and filed in the project file, and the project proponent notified as soon as possible upon completion. **PR4** When the final report with the specimen inventory and the signed receipt of confirmation of museum deposition are accepted by the BLM, mitigation for paleontological resources related to the project will be considered completed. The project proponent will be notified in writing as soon as possible by the Authorized Officer after consulting with the Paleontology Lead or Regional Paleontologist and a copy of the notification placed in the project file. The responsibility of the project proponent ends when appropriate mitigation related directly to the project is completed and final approval is received from the Authorized Officer. Any additional field collection, quarrying, final specimen preparation, etc. will be considered to be research, and will be the responsibility of the consulting paleontologist or another approved party. The project proponent will not be held responsible for completion of any research project. However, the project proponent can choose to sponsor further research. A separate research permit will be required for additional research activities.	

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		PR5 Fossil specimens and related data collected from public lands during field surveys and mitigation remain the property of the Federal government. They must be placed in the approved repository(s) identified on the Paleontological Resource Use Permit held by the consulting paleontologist as soon as practical and receipt(s) of collections submitted to the BLM, but no later than 60 days after all field work is completed. Written approval from the Paleontology Lead or Regional Paleontologist is required if additional time is needed for transfer of all specimens and field data.	
1 Same as PA.	S	Same as PA.	LTS
2 Same as PA.	S	Same as PA.	LTS
3 Same as PA.	S	Same as PA.	LTS
4 No significant impact would occur.	NE	No mitigation recommended.	LTS
4.14 Socioeconomic Conditions and Environmental Justice			
PA No significant impact would occur.	NE	No mitigation recommended.	NE
1 Same as PA.	NE	Same as PA.	NE
2 Same as PA.	NE	Same as PA.	NE
3 Same as PA.	NE	Same as PA.	NE
4 No significant impact would occur.	NE	No mitigation recommended.	NE
4.15 Recreation			
PA No significant impact would occur.	NE	No mitigation recommended.	NE
1 Same as PA.	NE	Same as PA.	NE
2 Same as PA.	NE	Same as PA.	NE
3 Same as PA.	NE	Same as PA.	NE
4 No significant impact would occur.	NE	No mitigation recommended.	NE

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4.16 Special Designations			
PA No significant impact would occur.	NE	No mitigation recommended.	NE
1 Same as PA.	NE	Same as PA.	NE
2 Same as PA.	NE	Same as PA.	NE
3 Same as PA.	NE	Same as PA.	NE
4 No significant impact would occur.	NE	No mitigation recommended.	NE
5.0 Cumulative Impacts			
PA The addition of the Proposed Action's trips to the Year 2012 plus cumulative conditions would result in a cumulatively significant impact to the following intersections: • Dunaway Road at Project Access; • Dunaway Road at I-8 WB Ramp; • Dunaway Road at I-8 EB Ramp; and, • Forrester Road at I-8 EB Ramp.	S	**CUM1 Intersections of Dunaway Road at Project Access; Dunaway Road at I-8 WB Ramp; Dunaway Road at I-8 EB Ramp; and, Forrester Road at I-8 EB Ramp.** A Mitigation Monitoring and Reporting Program shall be established to determine if the four intersections would operate at unacceptable LOS starting in Year 2012 and beyond annually until the project construction is completed. If unacceptable LOS is documented in Year 2012, then a fair share contribution or payment of applicable Transportation Impact Fee is recommended as the mitigation measure. It should be noted that the fair share participation is based on the project's construction traffic that is significantly higher than the project's traffic after completion of construction. It should also be noted that the fair share participation is based on the project's construction traffic that is significantly higher than the project's traffic completion of construction (i.e. 285 temporary construction employees vs. 4 permanent operation employees) as follows:	LTS

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		• Dunaway Road at Project Access (Construction = 41.4%, Permanent Emp. = 0.9%); • Dunaway Road at I-8 WB Ramp (Construction = 22.9%, Permanent Emp. = 0.4%); • Dunaway Road at I-8 EB Ramp (Construction = 18.3%, Permanent Emp. = 0.9%); and, • Forrester Road at I-8 EB Ramp (Construction = 9.8%, Permanent Emp. = 0.2%). If unacceptable LOS is not documented at the four cumulatively impacted intersections based on the mitigation monitoring and reporting program, then the applicant's fair share contribution (based on construction traffic) should be refunded. If the County desires some form of mitigation, then it is recommended that the fair share contribution (based on permanent operation employees) be conditioned.	
1 Same as PA.	S	Same as PA.	LTS
2 Same as PA.	S	Same as PA.	LTS
3 Same as PA.	S	Same as PA.	LTS
4 No new development is proposed under the No Action/No Project Alternative. Therefore, no significant impact would occur.	NE	No mitigation recommended.	NE

Source: BRG Consulting, Inc., 2010

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